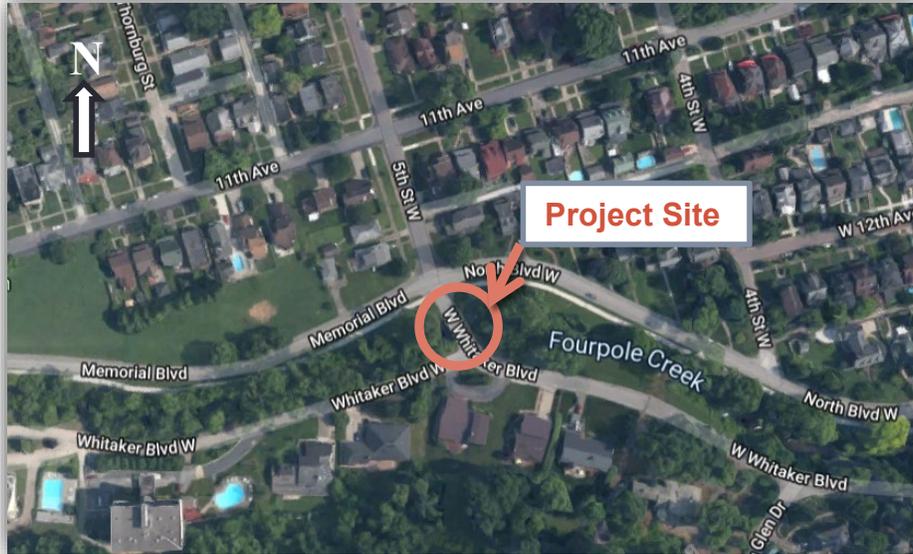




# KYOVA 5th Street West Bridge Study Executive Summary August 2019 City of Huntington Cabell County, West Virginia



## PURPOSE

The purpose of this study is to evaluate rehabilitation and replacement alternatives for improving the existing 5th Street West Bridge. The three alternatives proposed include a No-Build Alternative, Rehabilitation Alternative, and Replacement Alternative.

## EXISTING CONDITIONS

The 5th Street West Bridge was built in 1921. The bridge is a single span, simply supported reinforced concrete T-Beam system. The floor system of the bridge is in poor condition. The bridge has a reinforced concrete balustrade type parapet walls along each side that are also in poor condition. Both concrete abutments are in poor condition. There is no undermining or scour present at the abutments; however, there is stream bank erosion present downstream. The existing structure contains a reinforced concrete deck that is in poor condition and an asphalt wearing surface that is in fair condition.



View 1: 5th Street West Bridge General Elevation



View 1: 5th Street West Bridge (Looking North)

## ALTERNATIVES

### No-Build Alternative

Due to the deteriorating condition of the existing structure, the No-Build Alternative would eventually result in the permanent closure of the bridge to traffic. A permanent detour would prove inconvenient to motorists and pedestrians, as well as residents living along the detour route. Continued deterioration to the existing structure may also cause impacts to Fourpole Creek and its natural resources. Due to these limitations, the No-Build Alternative was found not to be a prudent solution.

### Rehabilitation Alternative

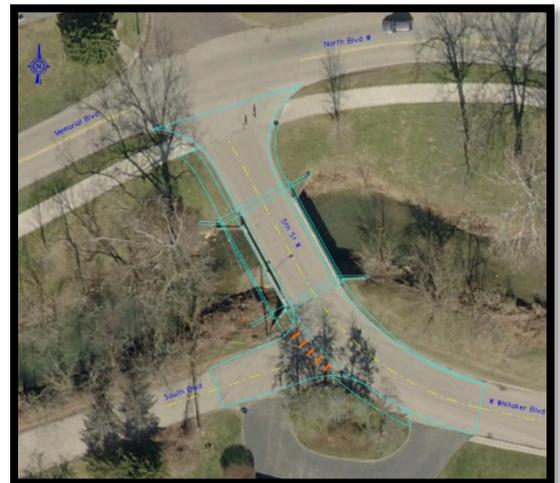
The existing structure has severe deficiencies to the beams, abutments, balustrade walls, deck, and has erosion along abutments. Due to these deficiencies, the existing bridge is posted for a 10-ton weight restriction. Necessary rehabilitation would include extensive repairs to the abutments and superstructure replacement, as well as regrading areas of erosion around abutments. While a superstructure replacement would improve the condition of the existing bridge, current Geometric Design Criteria requirements set by the WVDOH would not be satisfied. Given the state of its advanced deterioration and failure to meet standard design criteria, the Rehabilitation Alternative was found not to be a prudent solution.

### Replacement Alternative

The Replacement Alternative, as shown below, involves construction of a new bridge along the existing 5<sup>th</sup> Street West alignment, consisting of two 11-foot lanes with 3-foot shoulders on each side and a 6-foot sidewalk along the western side. The sidewalk will be tied into the existing trail crossing along 5th Street West. In addition, new sidewalk and pedestrian crossing facilities are proposed along the western side of West Whitaker Boulevard and South Boulevard, providing pedestrians in the surrounding residential area with better access to the walking trail north of the bridge along Memorial Boulevard and North Boulevard West. The Replacement Alternative was found to be a prudent solution.

## CONCLUSIONS/RECOMMENDATIONS

AECOM recommends proceeding with further project development of the Replacement Alternative, which would replace the 5th Street West Bridge on the existing alignment with an improved single-span structure incorporating a longer span, larger bridge width, sidewalk, and shoulders, while using a temporary detour to maintain traffic during construction. Additional steps will need to be taken to advance the project into the design phase and ultimately the construction phase. These steps include, but are not limited to, further environmental investigations, including National Environmental Policy Act (NEPA) environmental documentation required by the Federal Highway Administration, permitting approvals; preliminary engineering; surveying and mapping; utility location coordination and verification; right-of-way needs analysis; geotechnical investigations; and final design including the development of contract documents and right-of-way plans.



Replacement Alternative